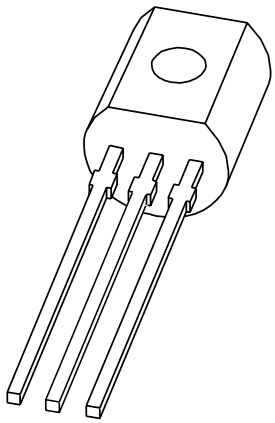
查询PBSS8110S供应商

DATA SHEET



PBSS8110S

100 V, 1 A

NPN low V_{CEsat} (BISS) transistor

Product specification

Supersedes data of 2003 Nov 11

2004 Aug 13

Philips Semiconductors

PHILIPS

100 V, 1 A NPN low V_{CEsat} (BISS) transistor

PBSS8110S

FEATURES

- SOT54 package
- Low collector-emitter saturation voltage V_{CEsat}
- High collector current capability: I_C and I_{CM}
- Higher efficiency leading to less heat generation.

APPLICATIONS

- Automotive 42 V power
- Telecom infrastructure
- General industrial applications
- Power management
  - DC/DC converters
  - Supply line switching
  - Battery charger
  - LCD backlighting.
- Peripheral drivers
  - Generic driver (e.g. lamps and LEDs)
  - Inductive load driver (e.g. relays, buzzers and motors).

DESCRIPTION

NPN low V_{CEsat} BISS transistor in a SOT54 plastic package.

MARKING

TYPE NUMBER	MARKING CODE
PBSS8110S	S8110S

QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{CEO}	collector-emitter voltage	100	V
I_C	collector current (DC)	1	A
I_{CM}	peak collector current	3	A
R_{CEsat}	equivalent on-resistance	200	mΩ

PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter

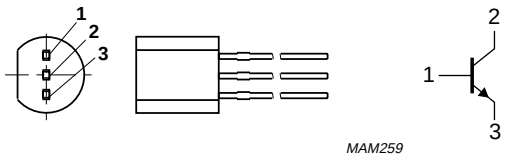


Fig.1 Simplified outline (SOT54) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PBSS8110S	–	plastic single-ended leaded (through hole) package; 3 leads	SOT54

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	120	V
V_{CEO}	collector-emitter voltage	open base	–	100	V
V_{EBO}	emitter-base voltage	open collector	–	5	V
I_C	collector current (DC)		–	1	A
I_{CM}	peak collector current	$T_{j\ max}$	–	3	A
I_B	base current (DC)		–	300	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	830	mW
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		−65	+150	°C
T_{stg}	storage temperature		−65	+150	°C

Note

1. Device mounted on a FR4 printed-circuit board; single-sided copper; tinplated; standard footprint.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	in free air; note 1	150	K/W

Note

1. Device mounted on a FR4 printed-circuit board; single-sided copper; tinplated; standard footprint.

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

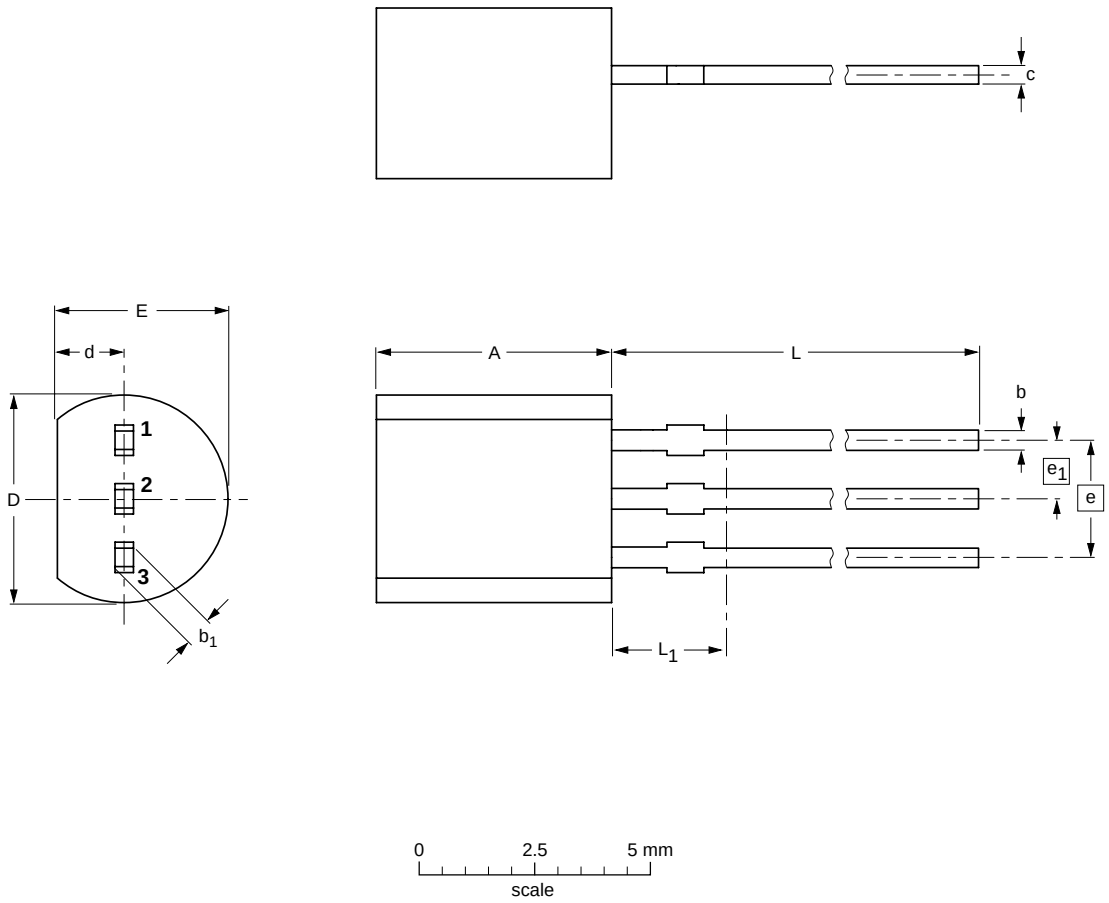
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	V_{CB} = 80 V; I_E = 0	–	–	100	nA
		V_{CB} = 80 V; I_E = 0; T_j = 150 °C	–	–	50	μA
I_{CES}	collector cut-off current	V_{CE} = 80 V; V_{BE} = 0	–	–	100	nA
I_{EBO}	emitter cut-off current	V_{EB} = 4 V; I_C = 0	–	–	100	nA
h_{FE}	DC current gain	V_{CE} = 10 V; I_C = 1 mA	150	–	–	
		V_{CE} = 10 V; I_C = 250 mA	150	–	500	
		V_{CE} = 10 V; I_C = 0.5 A; note 1	100	–	–	
		V_{CE} = 10 V; I_C = 1 A; note 1	80	–	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 100 mA; I_B = 10 mA	–	–	40	mV
		I_C = 500 mA; I_B = 50 mA	–	–	120	mV
		I_C = 1 A; I_B = 100 mA	–	–	200	mV
R_{CEsat}	equivalent on-resistance	I_C = 1 A; I_B = 100 mA; note 1	–	165	200	mΩ
V_{BEsat}	base-emitter saturation voltage	I_C = 1 A; I_B = 100 mA; note 1	–	–	1.05	V
V_{BEon}	base-emitter turn-on voltage	V_{CE} = 10 V; I_C = 1 A	–	–	0.9	V
f_T	transition frequency	V_{CE} = 10 V; I_C = 50 mA; f = 100 MHz	100	–	–	MHz
C_c	collector capacitance	V_{CB} = 10 V; I_E = I_e = 0; f = 1 MHz	–	–	7.5	pF

Note

1. Pulse test: $t_p \leq 300$ μs; $\delta \leq 0.02$.

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads **SOT54**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b_1	c	D	d	E	e	e_1	L	L_1(1) max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT54		TO-92	SC-43A			~~97-02-28~~ 04-06-28

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